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**Birch, Stewart, Kolasch & Birch, LLP**

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MAR 19 2003

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# Fax

<b>To:</b>	Examiner DiLinh Nguyen	<b>From:</b>	Elliot Goldberg 2814
<b>Fax:</b>	703-308-7722	<b>Date:</b>	March 19, 2003
<b>Phone:</b>		<b>Pages:</b>	10 (including cover sheet)
<b>Your Ref.:</b>	900653-01 (YW/yut)	<b>Our Ref.:</b>	0033-0694P
<b>Re:</b>		<b>CC:</b>	

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

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**Comments:**

**In a telephone interview with the Examiner on March 19, 2003, she indicated our Reply of February 19, 2003 was not received.**

**Enclosed is a copy of a Reply together with a copy of the postcard receipt.**

Papers Filed herewith on: 2/19/03 29  
 DOCKET NO.: 33-6949  
 ATTY.: SKS  
 APPLICANT(S): SUMIKAWA et al.  
 USSN: 09/182,180 FILED: 2/14/01  
 PAT NO.:

- ☐ New Application with Transmittal Letter  
☐ Utility ☐ Design ☐ CIP ☐ PCT ☐ Provisional  
☐ Filing Under 37 CFR 1.53(b) ☐ CONT ☐ DIV  
☐ Filing Under 37 CFR 1.53(d) (CPA)  
☐ Specification Consisting of: \_\_\_\_\_ pages  
☐ Combined Declaration & Power of Attorney  
☐ Assignment / Cover Letter  
☐ Letter to Official Draftsman  
☐ Drawings \_\_\_\_\_ Sheets ☐ Formal ☐ Informal ☐ Red-Ink  
☐ Completion of Filing Requirements, PCT/DO/E/C or PTO-1533 and Executed Declaration  
☐ Priority Document(s) / Cover Letter No. Doc. \_\_\_\_\_  
☒ Amendment: Second Reply under 1.116  
☐ Transmittal Ltr ☐ Large Entity ☐ Small Entity

- ☐ Response  
☐ Information Disc Stmtnt. PTO-1449(s) \_\_\_\_\_ doc(s)  
☐ Notice of Appeal ☐ Appeal Brief  
☐ Issue Fee Transmittal  
 FEES: 416.00 cc # 6022 585  
☐ Letter:  
☒ Other: Attachment A

Receipt is hereby acknowledged of the papers filed as indicated in connection with the above identified case.  
 COMMISSIONER OF PATENTS AND TRADEMARKS  
 Due Date: 2/19/03  
 Handcarry:

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**COPY**

**BOX AF**  
**REPLY UNDER 37 C.F.R. § 1.116**  
**EXPEDITED PROCEDURE**  
**EXAMINING GROUP 2814**

**PATENT**  
**0033-0694P**

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: SUMIKAWA, et al. Conf.: 2465  
 Appl. No.: 09/782,180 Group: 2814  
 Filed: February 14, 2001 Examiner: D. Nguyen  
 For: SEMICONDUCTOR DEVICE AND METHOD OF  
 MANUFACTURING THE SAME

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MAR 19 2003

LARGE ENTITY TRANSMITTAL FORM  
FOR REPLY AFTER FINAL UNDER 37 C.F.R. § 1.116

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**BOX AF**

Assistant Commissioner for Patents  
 Washington, DC 20231

February 19, 2003

Sir:

Transmitted herewith is a Second Reply in the above-identified application.

☐ The enclosed document is being transmitted via the Certificate of Mailing provisions of 37 C.F.R. § 1.8.

☐ The enclosed document is being transmitted via facsimile.

The fee has been calculated as shown below:

	CLAIMS REMAINING AFTER AMENDMENT			HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE	ADDITIONAL FEE
TOTAL	17	-	20	=	0	\$ 18	\$0.00
INDEPENDENT	4	-	4	=	0	\$ 84	\$0.00
<input type="checkbox"/> FIRST PRESENTATION OF A MULTIPLE DEPENDENT CLAIM						\$280	\$0.00
						<b>TOTAL</b>	<b>\$0.00</b>

Appl. No. 09/782,180

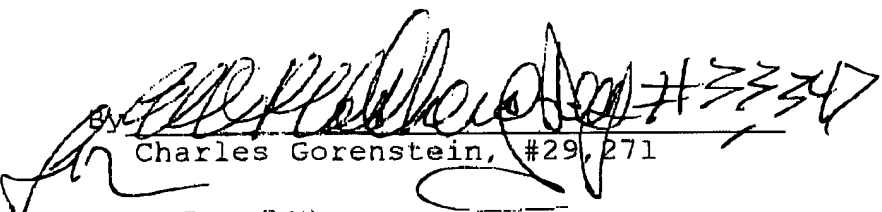
- ☒ Petition for two (2) month(s) extension of time pursuant to 37 C.F.R. §§ 1.17 and 1.136(a). \$410.00 for the extension of time.
- ☐ No fee is required.
- ☒ Check(s) in the amount of \$410.00 is(are) enclosed.
- ☐ Please charge Deposit Account No. 02-2448 in the amount of \$0.00. This form is submitted in triplicate.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH &amp; BIRCH, LLP

COPY

  
Charles Gorenstein, #29,271

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Falls Church, VA 22040-0747  
(703) 205-8000

CG/EAG/kss  
0033-0694P

Attachment(s)

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MAR 19 2003 (MAR 30/02)

TECHNOLOGY CENTER 2800

**BOX AF**  
**REPLY UNDER 37 C.F.R. § 1.116**  
**EXPEDITED PROCEDURE**  
**EXAMINING GROUP 2814**

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PATENT  
0033-0694P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant:	SUMIKAWA, et al.	Conf.:	2465
Appl. No.:	09/782,180	Group:	2814
Filed:	February 14, 2001	Examiner:	D. NGUYEN
For:	SEMICONDUCTOR DEVICE AND METHOD OF MANUFACTURING THE SAME		

**SECOND REPLY UNDER 37 C.F.R. § 1.116**

Assistant Commissioner for Patents  
Washington, DC 20231

February 19, 2003

Sir:

This is a Second Reply to the Final Office Action mailed December 19, 2002. A Petition for a two (2) month extension of time is included.

A Reply After Final was submitted on December 19, 2002.

In an Advisory Action dated January 23, 2003, the Examiner stated that the Request for Reconsideration was considered. Also, in Section 7 of the Advisory Action, box 7 was checked, and it is assumed that the previous Reply will be entered as there were no amendments in that Reply.

The present Reply is to respond to certain statements made in the Advisory Action regarding the base reference to Toyosawa.

Appl. No. 09/782,180

For the convenience of the Examiner, enclosed is Attachment A. On the first page of Attachment A, a comparison of the present claims and the base reference are set forth. Also, on pages 2 and 3 is a description of the portion identified by asterisk in the table on page 1.

This further evidence has been provided to illustrate that Toyosawa's does not suggest what has been claimed.

### **CONCLUSION**

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Elliot A. Goldberg (Reg. No. 33,347) at the telephone number of (703) 205-8000, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a two (2) month extension of time for filing a reply in connection with the present application, and the required fee of \$410.00 is attached hereto.

Appl. No. 09/782,180

**COPY**

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully Submitted,

BIRCH, STEWART, KOLASCH &amp; BIRCH, LLP

By: 

Charles Gorenstein

Reg. No. 29,271

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(703) 205-8000

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MAR 19 2003

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09/782,180

## ATTACHMENT A

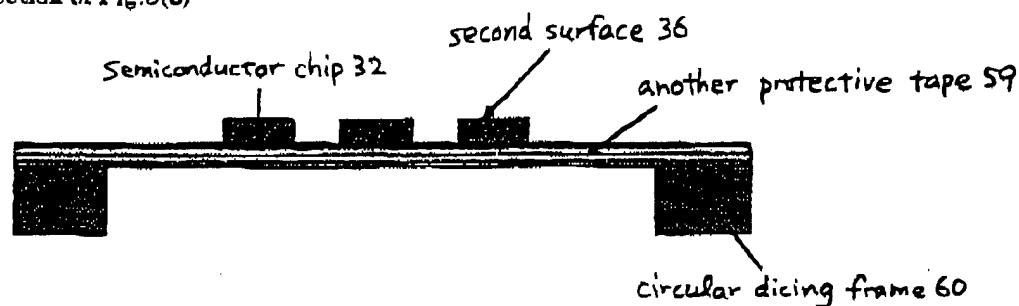
	back surface reinforcement member in the present invention	Toyosawa's another protective tape (not shown)	commentary
position	a surface of a semiconductor substrate that is opposite a surface of the substrate provided with an external connection electrode	in contact with another surface 36 of a semiconductor chip	match, as described in the embodiments
when it is introduced	introduced in semiconductor device fabrication process (Fig. 1) & final product (Fig. 2)	introduced temporarily (only in a semiconductor device fabrication process; a final product is shown in Fig. 1, 2 with surface 36 having nothing thereon.)*	Different in that whether it exists in the final product.
material	resin (utilizing low resilience)	considered as resin.	considered the same.
effect	It follows bending of a thin semiconductor substrate to provide reinforcement. When a PCB having a semiconductor device mounted thereon receives force applied to bend it the member alleviates stress of a soldered connection to prevent fracture. It also prevents the substrate from cracking and having scratches (it provides protection).	Fixes (supports) chip 32 before the ILB step.* ILB step: the step of connecting 47 and 44.	Different.

Toyosawa fails to explicitly describe how the protective tape is used. In general, a "protective tape (not shown)" affixed on "another surface 36 of semiconductor chip 32" before "an assembly process, or an ILB process, is performed" is referred to as a "pickup tape." We would provide below a description corresponding to the portion in the above table with an asterisk. We believe that the following description will clarify that the back surface reinforcement member of the present invention is distinguished from Toyosawa's protective tape.



09/782,180

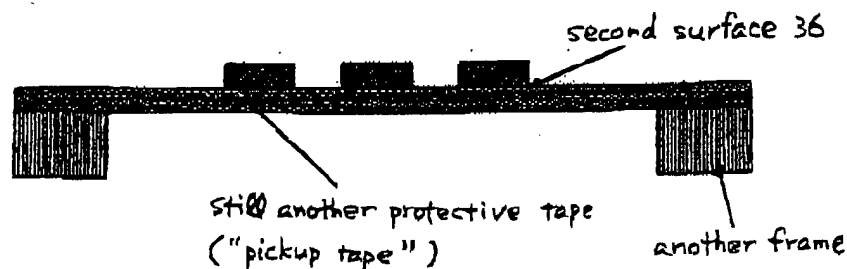
(1) Cross section of Fig.5(b)



(2) Etching ----&gt; Washing in water ----&gt; Drying

"..., thereby simultaneously removing the grinding scratches 35 on the second surfaces 36 of the semiconductor chips 32 and the dicing scratches 37 on the peripheries of the semiconductor chips 32." (Col. 22, lines 22-25 in Toyosawa)

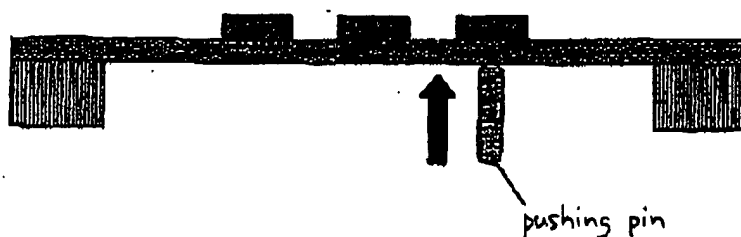
(3) "Then, the semiconductor chips 32 are again moved as they are so that the second surfaces 36 of the semiconductor chip 32 are in contact with still another protective tape (not shown)." (Col. 22, lines 27-30 in Toyosawa)



"Then, the ILB process included in the assembling process is performed." (Col. 22, lines 30-31 in Toyosawa)

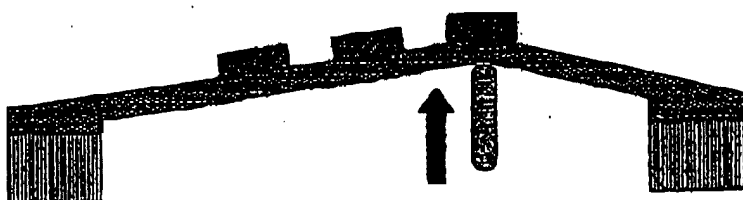
Ordinary Process till ILB (Inner Lead Bonding) process

1. Pressing the pickup tape with a pushing pin from below at the position of the semiconductor chip to be picked out.

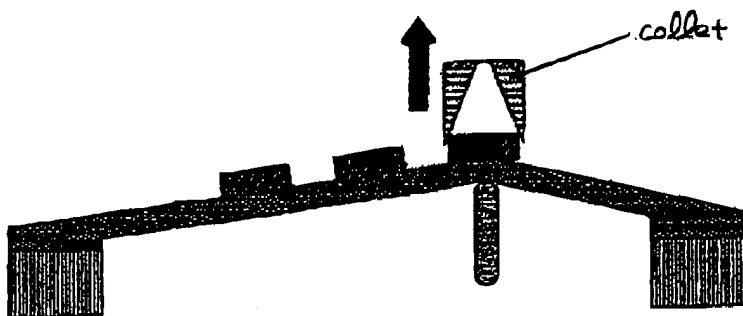


09/782,180

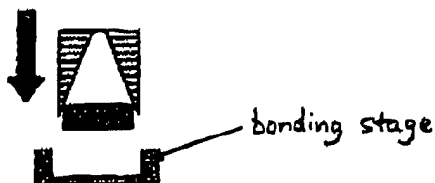
2. With pressing with a pushing pin, the pickup tape stretches elastically because it is made of resin. It comes to be easy to pick the semiconductor chip out because the second surface 36 partly comes off the pickup tape.



3. Picking the semiconductor chip by vacuum holding with a collet. Then, the semiconductor chip separates from the pickup tape.



4. The semiconductor chip is transferred onto a bonding stage. Of course, there is no tapes on the second surface of the semiconductor chip.



5. Performing ILB process.

